## ABSTRACT

A system, components and methods provide controlled transmitter power in a wireless communication system in which both dedicated and shared channels are utilized. A network unit preferably has a receiver for receiving UL user data from WTRUs on UL DCHs and at least one UL SCH and a processor for computing target metrics for UL DCHs based on the reception of signals transmitted by a WTRU on an UL DCH associated with an UL SCH usable by the WTRU. A shared channel target metric generator is provided that is configured to output a respective UL SCH target metric derived from each computed UL DCH target metric. Each WTRU preferably has a processor which is configured to compute UL DCH power adjustments for an UL DCH associated with an UL SCH as a function of UL DCH target metrics computed by the network unit based on the reception of signals transmitted by the WTRU on the UL DCH and UL SCH power adjustments for the associated UL SCH as a function of the respective UL SCH target metrics output from the shared channel target metric generator. Preferably, the target metrics are target signal to interference ratios (SIRs).